EQUALIZER PERFORMANCE ENHANCEMENTS FOR BROADBAND WIRELESS APPLICATIONS

Abstract of the Disclosure

A system and method for enhancing the performance of an equalizer in a modem. Multiple techniques are disclosed which improve the modem performance. A first technique uses stored parameters for each burst from each remote site to demodulate a received data stream. A second technique compensates for the gain droop caused by storing parameters across each burst. A third technique minimizes errors caused by adapting the equalizer coefficients for each data burst by analyzing the SN ratio and error rate of the received burst. A fourth technique improves the convergence of the equalizer by using a two-part preamble, whereby both parts are transmitted using different modulation techniques. A fifth technique is provided which performs a soft reset of the modem without performing a complete reset of the modem. A sixth technique determines a modem adaptation factor based on the expected modulation type of an incoming burst transmission. A seventh technique calculates a phase correction value for the stored tap values and applies the value to the incoming signal.

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